

WHAT IS CLAIMED IS:

1. An imaging apparatus comprising:

an imaging device having a plurality of light-sensitive portions arranged at least one-dimensionally or two-dimensionally, each light-sensitive portion including an arbitrary number of fields; and
5 a position control section which moves the relative positions of image points and the respective light-sensitive portions of the imaging device every field,
10 wherein an effective aperture ratio of the light-sensitive portion is set so as to substantially minimize an aliasing distortion component at zero of spatial frequencies and at a Nyquist frequency.

15 2. An imaging apparatus according to claim 1, wherein the one frame of the imaging device includes four or more fields.

20 3. An imaging apparatus according to claim 1, wherein the effective aperture ratio is determined on the basis of a physical aperture ratio of the light-sensitive portion.

25 4. An imaging apparatus according to claim 1, wherein,

the position control section vibrates the positions of the respective light-sensitive portions in each of the fields, and

the effective aperture ratio is determined on the

basis of a physical aperture ratio of the light-sensitive portion and the vibration of the light-sensitive portion in each of the fields.

5. An imaging apparatus comprising:

an imaging device in which a plurality of light-sensitive portions are arranged at least one-dimensionally or two-dimensionally; and

10 a position control section which moves the relative positions of image points and the respective light-sensitive portions of the imaging device in a frame comprising four or more even-numbered fields every field,

wherein the fields are formed so that a spatial phase at the position of the light-sensitive portion shifts 180° between the adjacent fields.

15 6. An imaging apparatus according to claim 5, wherein an effective aperture ratio of the light-sensitive portion is set so as to substantially minimize an aliasing distortion component at zero of spatial frequencies and at a Nyquist frequency.

20 7. A display apparatus comprising:

a display panel having a plurality of display pixels arranged at least one-dimensionally or two-dimensionally, each display pixel including an arbitrary number of fields;

25 a screen onto which an image on the display panel is projected; and

a position control section which moves image points projected on the screen every field,

wherein an effective image area ratio on the screen is set so as to substantially minimize an aliasing distortion component at zero of spatial frequencies and at a Nyquist frequency.

5 8. A display apparatus according to claim 7,
wherein the display apparatus includes the fields
constituted in such a manner that one frame comprises
10 four or more even-numbered fields.

9. A display apparatus according to claim 7,
wherein the effective image area ratio is determined on
the basis of a physical area ratio of the image on the
screen.

15 10. A display apparatus according to claim 7,
wherein,
the position control section vibrates the
positions of the image points in each of the fields,
and

20 the effective area ratio is determined on the
basis of the physical area of the image formed on the
image points and the vibration in the field.

11. A display apparatus comprising:
25 a display panel having a plurality of display
pixels arranged at least one-dimensionally or two-
dimensionally, each display pixel including an
arbitrary number of fields that is equal to or larger

than four and is an even number;

a screen onto which an image on the display panel
is projected; and

5 a position control section which moves image
points projected on the screen every field,
wherein the fields are formed so that a spatial
phase at the position of the display pixel shifts 180°
between the adjacent fields.

12. A display apparatus according to claim 11,
10 wherein an effective image area ratio of the image
point is set so as to substantially minimize an
aliasing distortion component at zero of spatial
frequencies and at a Nyquist frequency.

13. An image processing method which can provide
15 or display an image in a resolution, which is higher
than the number of physical pixels provided by light-
sensitive portions and display pixels, using an image
processing section having at least one of an imaging
apparatus including a plurality of light-sensitive
20 portions and a display apparatus including a plurality
of display pixels, and a position control section which
displaces the relative positions of at least one pair
of a pair of the light-sensitive portions of the image
processing section and image points related to the
25 respective light-sensitive portions, and a pair of the
display pixels of the image processing section and
projection image points related to the respective

display pixels, said method comprising:

displacing the relative positions of at least one pair of the pair of the light-sensitive portions of the image processing section and the image points related to the respective light-sensitive portions and the pair of the display pixels of the image processing section and the projection image points related to the respective display pixels.

14. An image processing method according to
10 claim 13.

wherein,

the display pixels are arranged at least one-dimensionally or two-dimensionally,

each display pixel includes an arbitrary number of fields which is equal to or larger than four and is an even number, and

the fields are formed so that a spatial phase at the position of the display pixel shifts 180° between the adjacent fields.

20 15. An image processing method according to
claim 14, wherein an effective aperture ratio of the
light-sensitive portion is set so as to substantially
minimize an aliasing distortion component at zero of
spatial frequencies and at a Nyquist frequency.

25 16. An image processing method according to
claim 13.

wherein,

the light-sensitive portions are arranged at least one-dimensionally or two-dimensionally,

each light-sensitive portion includes an arbitrary number of fields which is equal to or larger than four
5 and is an even number, and

the fields are formed so that a spatial phase at the position of the light-sensitive portion shifts 180° between the adjacent fields.

17. An image processing method according to
10 claim 16, wherein an effective image area ratio of the projection image point is set so as to substantially minimize an aliasing distortion component at zero of spatial frequencies and at a Nyquist frequency.